

WHAT IS CLAIMED IS:

1. An antenna comprising:

a radiating portion comprising a radiating element, a mounting portion and a printed circuit board (PCB), said radiating element and said mounting portion being on a top surface of said PCB;

a ground portion comprising a metal plate and a coupling portion on a bottom surface of said metal plate, said coupling portion physically and electrically connecting with said mounting portion;

a feed cable comprising an inner conductor and an outer conductor respectively connected with said radiating element and said ground portion;

wherein a portion of said metal plate is overlapped on said printed circuit board, the rest portion of said metal plate is separated from said printed circuit board.

2. The antenna according to claim 1, wherein said coupling portion comprises a thin layer of soldering tin soldered onto said mounting portion.

3. The antenna according to claim 2, wherein said radiating element comprises a low-frequency radiating portion and a high-frequency radiating portion.

4. The antenna according to claim 3, wherein said high-frequency radiating portion comprises a first high-frequency radiating portion and a second high-frequency radiating portion.

5. The antenna according to claim 4, wherein said low frequency radiating portion, said first high-frequency radiating portion and said second high-frequency radiating portion are disposed in E-shape, with a crossing region formed in said E-shape.

6. The antenna according to claim 5, wherein said radiating portion comprises a

through hole through said radiating element.

7. The antenna according to claim 6, wherein said outer conductor is soldered onto said metal plate.

8. The antenna according to claim 1, wherein said radiating portion comprises a through hole defined through both said radiating element and said PCB.

9. The antenna according to claim 8, wherein said inner conductor is connected to an edge of said through hole.

10. The antenna according to claim 9, further comprising a conductive layer arranged on said PCB, said conductive layer connected with said mounting portion.

11. The antenna according to claim 10, wherein said outer conductor is connected to said conductive layer.

12. An antenna comprising:

a radiating portion comprising a radiating element and a printed circuit board (PCB) comprising a mounting portion, said radiating element being on surface of the PCB;

a metal plate comprising a coupling portion on a surface thereof;

a connecting portion connecting said mounting portion and said coupling portion together;

a feed cable comprising an inner conductor and an outer conductor respectively connected with said radiating element and said metal plate;

wherein a portion of said metal plate is overlapped on said printed circuit board, the rest portion of said metal plate is separated from said printed circuit board.

13. An antenna comprising:

a printed circuit board;

a radiating element formed on a portion of the printed circuit board;
a grounding element formed on another portion of the printed circuit board, which is spaced from the radiating element; and
a discrete metallic plate attached to the printed circuit board and defining a first region overlapped, in a vertical direction perpendicular to said printed circuit board, with and electrically connected to said grounding element, and a second region extending from an edge of the printed circuit board in a cantilever type, said edge being essentially located right beside the grounding element; wherein said second region is offset from the printed circuit board in said vertical direction, and is equipped with a setting hole via which the metallic plate is allowed to be mounted to a mobile electrical device.

14. The antenna according to claim 13, wherein said grounding element is a mounting portion.

15. The antenna according to claim 14, wherein said mounting portion is coplanar with said radiating element.